2005 INTEGRATED ENERGY POLICY REPORT COMMITTEE

Workshop on Proposed Transportation Energy Efficiency and Alternative Fuels Analyses

PRELIMINARY AGENDA

December 20, 2004
9:00 a.m.

- Welcoming Remarks
  Commissioners John L. Geesman and James D. Boyd

- Overview of Vehicle Energy Efficiency Program
  - Technology Advancements
  - Consumer Actions (e.g., monitoring tire inflation)
  - Interstate Coordination for Improving Vehicle Efficiency
  - Questions and Answers

- Overview of Alternative Fuels Program
  - CNG/LNG
  - Propane
  - Biodiesel
  - Gas-to-Liquid Diesel
  - Ethanol
  - Hydrogen/Electric-Drive Train Vehicles
  - Questions and Answers

- Overview of VMT Reduction and Other Options
  - VMT Reduction Options
  - Other Petroleum Reduction Options
  - Questions and Answers

BACKGROUND AND KEY QUESTIONS

As part of the 2005 Energy Report process, the Energy Commission is planning to analyze two major areas for transportation fuels in California:

- Transportation Energy Efficiency
- Alternative Transportation Fuels

A third category of options that may affect transportation fuel demand, VMT Reductions and Other Demand Reduction Options, is not planned for a significant level of evaluation in the current Energy Report process. Nevertheless, the Energy Commission is interested in hearing about progress in this area and desires feedback on potential opportunities to effectively reduce travel or make travel more energy efficient.

Transportation Energy Efficiency

The purpose of this project is to work with interested parties within the state and in other states to significantly increase the fuel efficiency of existing and new vehicles using available, cost-beneficial technologies. Over the next several months, staff will update previous analyses of near-term strategies to reduce fuel consumption from existing vehicles and develop a strategy for increasing the fuel efficiency of new vehicles. Staff will perform a cost and benefit evaluation of efficiency options, updating both technology and cost information, especially fuel costs.

Key questions relating to options for improving vehicle fuel use efficiency include:

1. What states are interested in working with original equipment manufacturers (OEMs) to increase the fuel use efficiency of new vehicles?

2. What are the safety implications of improving fuel economy options?

3. Can fuel economy be improved without altering the slate of vehicle types offered for sale by the OEMs?

4. What policy recommendation should be made to ensure that Californians drive cars which minimize their fuel consumption without constraining consumers' freedom of choice?

5. What technologies should staff be evaluating to improve fuel efficiency in existing vehicles? What can California vehicle owners do to improve the fuel use efficiency of the existing fleet of on-road vehicles?

Alternative Transportation Fuels

The purpose of this project is to update the analyses for the market potential and status of selected alternative fuel options to meet goals adopted in the AB 2076 petroleum dependence report[1]. Analysis will include infrastructure development and costs. Options include biodiesel, electricity, ethanol, gas-to-liquid (GTL) fuel, liquefied petroleum gas, natural gas, and hydrogen.

Staff will perform cost and benefit analyses of transportation applications for alternative fuel options. The analyses will include estimates of costs for vehicle ownership and operation, environmental impact and other externalities, and fuel supply, infrastructure and price considerations. Net benefit results will be compared to equivalent petroleum fuel options. Market status and estimates of future market penetration rates will be made in cooperation with industry stakeholders.

An important part of this project is to evaluate the potential of hydrogen as a fuel for transportation in California. Staff expects to use the evaluation currently underway for the Governor's Hydrogen Highway program. This evaluation will include the technology status of producing and using hydrogen, the limited distribution system for hydrogen, and the lifecycle costs and benefits of hydrogen as a transportation fuel. Because of the organizations involved in developing the Blueprint Plan for the Hydrogen Highway and its extensive review and comment, staff expects to use the results of this work to incorporate in the 2005 Energy Report.

Key questions relating to alternative transportation fuels use and their contribution to petroleum reduction goals include:

1. Given current technology status and development trends, what combination of vehicle technologies and fuels appear to be cost-competitive with petroleum fuel technologies in the near- and long-term?

2. What are the primary barriers to increased use of alternative fuels for transportation applications and what actions should be taken? What role should be taken by the state to increase the use of alternative fuels for transportation applications?

3. What would be the market impact if actions were taken to eliminate barriers that limit the use of alternative fuel options?

4. What criteria should the state employ to judge the potential and value of investments in alternative fuel deployment?

5. What are the development priorities for the use of hydrogen as a transportation fuel?

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[1] California Energy Commission, *Reducing California's Petroleum Dependence-Joint Agency Report*, August 2003, P600-03-005F

6. What are the costs and benefits of hydrogen compared to other transportation fuel options?

7. What is the potential through technological progress, economies of scale, standardization of equipment, or other methods to reduce the cost of hydrogen fuel, vehicles, and equipment?

8. What is a realistic timeframe for the commercialization of hydrogen in transportation?

9. What is the role for the state in moving towards a “hydrogen economy?”

10. What policy recommendation should be made to ensure that environmental and public health and safety risks are adequately addressed?

VMT Reduction and Other Demand Reduction Options

A set of options to reduce vehicle-miles-traveled (VMT) by single-occupancy vehicles, reduce travel demand, or to increase energy efficiency per passenger-mile traveled have been previously screened for their petroleum reduction impact.[2] The table below lists examples of these measures. However, new conditions or new findings on the merit of these options to reduce petroleum fuel demand may warrant greater emphasis in the current Energy Report process. Stakeholders who have information on the potential energy benefit of options that can be placed in this category are encouraged to submit comment.

Examples of VMT Reduction and Other Demand Reduction Options	
• Ridesharing	• Telecommuting
• Public Transit	• Land Use Planning
• Reducing Speed Limits	• Accelerated Vehicle Retirement
• Transportation Allowances (in lieu of free parking)	• Compressed Work Week

Key questions related to VMT reductions or other demand reduction options include:

1. What VMT options merit further analyses in the Energy Report process?

2. What organizations are employing options in this category and what results have been measured?

3. What actions should be taken to increase the use of options in this category and by what authorities?

[2] California Energy Commission, *Reducing California's Petroleum Dependence-Joint Agency Report*, August 2003, P600-03-005F